



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/517,936	12/13/2004	Jin-Koo Chung	ABS-1670 US	6886
32605 7590 09/18/2008 MACPHERSON KWOK CHEN & HEID LLP 2033 GATEWAY PLACE SUITE 400 SAN JOSE, CA 95110			EXAMINER VU, HUNG K	
			ART UNIT 2811	PAPER NUMBER
			MAIL DATE 09/18/2008	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/517,936

Applicant(s)

CHUNG ET AL.

Examiner

HUNG VU

Art Unit

2811

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 June 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-4 and 10-16 is/are pending in the application.
- 4a) Of the above claim(s) 14-16 is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-4 is/are allowed.
- 6) ☒ Claim(s) 10-13 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-8508)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Request for Continued Examination

1 A request for continued examination (RCE) under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicants' submission filed on 06/30/08 has been entered. An action on the RCE follows.

Election/Restrictions

2. Newly submitted claims 14-16 are directed to an invention that is independent or distinct from the invention originally claimed for the following reasons: claims 14-16 are directed to the method of manufacturing an organic electroluminescent device in class 438, subclass 82.

Since applicant has received an action on the merits for the originally presented invention, this invention has been constructively elected by original presentation for prosecution on the merits. Accordingly, claims 14-16 are withdrawn from consideration as being directed to a non-elected invention. See 37 CFR 1.142(b) and MPEP § 821.03.

Claim Objections

3. Claim 10 is objected to because of the following informalities: In claim 10, line 4, "fist" should be changed to "first", for clarity. Appropriate correction is required.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 10-13 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

The specification does not disclose the insulating film having an opening portion formed on the first electrode with an inverse-tapered shape. Note that the specification only discloses the opening is formed with a tapered slope, and the insulating film is patterned to have an inverse tapered slope.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 10-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yamazaki et al. (PN 6,933,533, of record) in view of Laxman et al. (US 2005/0038276, of record).

Yamazaki et al. discloses, as shown in Figure 6, an organic electroluminescent device comprising:

- a substrate (200);
- a first electrode (260) formed on the substrate;
- an insulating film (280) formed on the first electrode and the substrate, the insulating film having an opening portion formed on the first electrode with a tapered shape;
- an organic electroluminescent layer (265) forming in the opening portion;
- a stripe-shaped second electrode (266) formed on the organic electroluminescent layer, the stripe-shaped second electrode being arranged to cross the first electrode.

Yamazaki et al. does not disclose the insulating layer is a chemical vapor deposition film.

However, Laxman et al. teaches in the abstract that CVD can be used to produce low dielectric constant thin films suitable for insulating layers in microelectronic device structures.

Paragraphs [0007] and [0003] teach that the lower dielectric constant insulator provides faster and more power efficient devices. It would have been obvious to use the low dielectric constant films as taught by Laxman et al. in the device of Yamazaki et al., in order to achieve the advantages desired by Laxman et al..

Regarding claims 11 and 12, Yamazaki et al. and Laxman et al. disclose SiOC of dielectric constant less than 3.0 (Abstract and [0007]).

6. Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Yamazaki et al. (PN 6,933,533, of record) in view of Laxman et al. (US 2005/0038276, of record) and further in view of Lin et al. (PN 6,372,661, of record).

Yamazaki et al. and Laxman et al. do not disclose the thickness of the insulating film of about 1 μm or more. However, Lin et al. discloses forming an insulating film with the thickness of about 1 μm or more to improve the crack resistance of CVD material. Note Col. 2, lines 14-39 of Lin et al.. It would have been obvious to use the insulating films with the thickness taught by Lin et al. in the device of Yamazaki et al. and Laxman et al., in order to achieve the advantages desired by Lin et al.. Although Yamazaki et al., Laxman et al. and Lin et al. do not teach the thickness and overlap, as that claimed by Applicants, however, absent any showing of criticality, specific dimensions of layer thickness and overlap would have been obvious to one having ordinary skill in the art at the time the invention was made to form the device of Yamazaki et al., Laxman et al. and Lin et al. having a desired dimensions in order to fabricate a device having other features commensurate in size with the recited dimensions, since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. In re Boesch, 617 F.2d 272, 205 USPQ 215 (CCPA 1980). In general, smaller dimensions are desirable because small devices in general are desirable, but dimensions that are too small are difficult to fabricate.

Allowable Subject Matter

7. Claims 1-4 are allowed.

Response to Arguments

8. Applicant's arguments filed 06/30/08 have been fully considered but they are not persuasive.

It is argued, at page 2 of the Remarks, that Yamazaki, Laxman and Lin do not teach forming an inverse-tapered shape opening in the insulating film. This argument is not convincing due to the above rejection under 35 USC 112, first paragraph.

Conclusion

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hung Vu whose telephone number is (571) 272-1666. The examiner can normally be reached on Monday to Thursday 6:00-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lynne A. Gurley can be reached on (571) 272 - 1670. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Application/Control Number: 10/517,936
Art Unit: 2811

Page 7

Vu

September 11, 2008

/Hung Vu/

Primary Examiner